

REMARKS

The Applicant respectfully requests reconsideration of all pending claims.

Claims 1-12 and 14-20 are pending. Claims 1, 6, 11, and 18 have been amended. No new claims have been added, and no claims have been cancelled. Accordingly, claims 1-12 and 14-20 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. None of the amendments to the claims introduces any new matter.

The Applicant reserves the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

Introductory Remarks

The Applicant's pending claims have been rejected primarily over U.S. Patents 5,046,863 to Sakatani et al. ("Sakatani"), and US 5,370,463 to Asada et al. ("Asada"). However, the Sakatani and Asada patents do not show or describe motors having a regulating region for regulating the axial movement of the motor, as described and claimed in the Applicant's application. In particular, Sakatani and Asada do not show a regulating region that faces a portion of the asymmetric journal bearing grooves.

The Applicant appreciates the Examiner's thoroughness, but believes that the Examiner has not fully appreciated the differences between the claimed invention and the teachings of Asada and Sakatani. Asada and Sakatani do not teach or describe regulating regions that are capable of regulating the axial alignment and reducing the operating thrust gap variation, as described and claimed.

As described in the Applicant's specification, the regulating region regulates the axial movement of a motor by changing the radial distance of the bearing gap of at least a portion of a fluid dynamic bearing (e.g., the distance between the shaft and the sleeve where the bearing grooves are located). Changing the radial distance of the bearing gap of a portion of a fluid dynamic bearing changes the effective bearing groove length for the bearing. Because the regulating region faces a portion of the grooves of an asymmetric journal bearing, it can change the effective groove length of the journal bearing. Neither Sakutani nor Asada show or describe regulating the axial movement of the motor by changing the radial distance of a bearing gap, and thus the effective groove length of an asymmetric journal bearing. In particular, Sakutani and Asada do not show or describe using a regulating region that faces at least a portion of the asymmetric journal bearing grooves, as will be described in greater detail below.

Rejections under 35 U.S.C. § 112 – First and Second Paragraphs

A. Claims 18-20

The Examiner has rejected claims 18-20 under 35 U.S.C. § 112, first and second paragraph "as begin incomplete for omitting essential steps, such omissions amounting to a gap between the steps. See MPEP §2172.01. The omitted steps are: any steps at all, 'providing' not being a step." Final Office Action of April 8, 2005, page 2.

The Applicant has amended independent claim 18 to recite the step of "axially aligning the sleeve with the shaft by providing a regulating means." Thus, the 35 U.S.C. §112 rejection of claims 18-20 has been mooted. The Applicant respectfully requests withdrawal of the 35 U.S.C. § 112, first and second paragraph rejection of claim 18-20.

Rejections under 35 U.S.C. § 102(e)**A. Sakatani**

Claims 1-4, 6-9, 11-14, and 18-20 stand rejected under 35 U.S.C. § 102(e) as anticipated by Sakatani. According to the Office Action: “[t]he examiner finds all claimed subject matter to be present,” and directs Applicant to Fig. 1, and col. 4, lines 55-64. Final Office Action of April 8, 2005, page 2.

Applicant respectfully disagrees.

Sakatani does not show or describe a *regulating region facing at least a portion of the asymmetric journal bearing grooves*, as recited by independent claims 1, 6, 11, and 18, from which claims 2-4, 7-9, 12-14, 19 and 20 depend.

The “lubricating pits 12” shown in Sakatani’s Fig. 1 are not regulating regions. First, the lubricating pits are not “facing at least a portion of the asymmetric journal bearing grooves,” as recited by the claims. For example, in Figures 1 and 4, the lubricating pits clearly face other portions of the shaft 4 and not the journal bearings. According to Sakatani, the lubricating pits are not facing the asymmetric journal bearings, but are “disposed *near* the thrust bearing surface.” Sakatani, col. 3, lines 7-8, emphasis added.

Second, Sakatani teaches away from axially aligning the sleeve with the shaft using a regulating region as claimed by the Applicant. As described above, the regulating region changes the effective length of a bearing groove by changing the distance of the bearing gap for part of the fluid dynamic bearing. In contrast, Sakatani teaches using specific, predetermined axial lengths to regulate the pumping force of the fluid dynamic grooves. See, e.g., Sakatani, col. 4, lines 4-38 (“That is, they are formed such that there exists a relationship: $(a-b < d-c)$ for the difference of the axial length $(a-b)$ between the outer groove segment 15B and the inner groove segment 15A in the upper herringbone-shaped grooves 15 and for the difference of the axial

length (d-c) between the outer groove segment 15B and the inner groove segment 15A in the lower herringbone-shaped grooves 15.”). Sakatani did not contemplate dynamically changing the effective axial lengths with a regulating region. Moreover, Sakatani’s method for regulating pumping force would not work if the axial lengths of some of these fluid bearings could dynamically change, because this might change the relationship of the lengths of the groove segments that Sakatani’s method requires (e.g., $a-b < d-c$).

In sum, Sakatani does not show or describe a regulating region facing at least a portion of the asymmetric journal bearing grooves. To anticipate, a reference must teach every aspect of the claimed invention either explicitly or impliedly. MPEP §706.02. Since Sakatani does not show at least the regulating region as recited by independent claims 1, 6, 11 and 18, Sakatani cannot anticipate the pending claims. The Applicant respectfully requests withdrawal of the 35 U.S.C. §102(e) rejection of claims 1-4, 6-9, 11-14, and 18-20.

B. Asada

Claims 5, 10, 15, and 17 stand rejected under 35 U.S.C. § 102(e) over Asada. The Examiner asserts that “all claimed subject matter” is presented in Asada, and points specifically to “Fig. 1 and col. 4, lines 67 - col. 5, line 3 and regulating region near 2f.” Final Office Action of April 8, 2005, page 3.

Applicant respectfully disagrees.

Asada does not show or describe a *regulating region facing at least a portion of the asymmetric journal bearing grooves*, as recited by independent claims 1, 6, and 11, from which claims 5, 10, 15, and 17 depend.

The groove region that the examiner refers to as “regulating region near 2f” is a peripheral groove 2B. As the name suggests, this groove is located *peripheral* to the journal bearings. This peripheral groove does not face at least a portion of the asymmetric journal bearing grooves, but is instead located between the grooves. Asada, col. 3, lines 29-32 (“There are provided, between the helical and herringbone grooves 2A and 2D, a peripheral groove 2B having opposing holes 2F opening into a communicating hole (or passage) 2C.”). Further, Asada depicts the peripheral groove 2B on the same surface as the journal bearings. Thus, Asada does not show or describe a regulating region facing at least a portion of the asymmetric journal bearing grooves.

In order to anticipate, a reference must teach every aspect of the claimed invention either explicitly or impliedly. MPEP §706.02. Since Asada does not show at least the regulating region as recited by independent claims 1, 6, and 11, Asada cannot anticipate the pending claims. The Applicant respectfully requests withdrawal of the 35 U.S.C. §102(e) rejection of claims 5, 10, 15, and 17.

Inherency

The Office Action further asserts that “there is reason to believe, based on the similarity of structure, that the functional limitation(s) of the claims may be inherent characteristics of the references.” Final Office Action of April 8, 2005, page 3.

The Applicant respectfully disagrees. As described above, neither Sakatani nor Asada show or even suggest a regulating region facing at least a portion of the asymmetric journal bearing grooves, as recited by the claims. This structure is simply not present or even suggested in Sakatani and Asada. Thus, the Examiner’s inherency argument cannot stand, because there is no similar structure that could be “inherently” performing the function limitations of the claims.

The Applicant therefore respectfully request withdrawal of the Examiners assertion of inherency under 35 U.S.C. §102, or a *prima facie* obviousness under 35 U.S.C. §103. See the final Office Action of April 8, 2005, page 3.

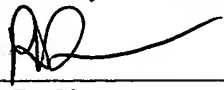
Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 146712010200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

By  _____

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